Finance and Administration

1.0 Finance and Administration Program Area Overview

We have divided the Finance and Administration section of this 2000 Operational IT Plan update into two parts: the Commerce Administrative Management System (CAMS) and the Publications and Forms Design System. In the Finance and Administration area, our main business is providing administrative support to the U.S. Census Bureau; this includes implementing, deploying, and maintaining all components of CAMS and the Publications and Forms Design System.

CAMS is the vehicle through which the U.S. Census Bureau meets the requirements of the Chief Financial Officer Act, the Government Management Reform Act, and the Acquisition Streamlining Act.

CAMS supports a paperless, seamless operation in which financial data is captured as a byproduct of program and administrative tasks. Financial management permeates all of the U.S. Census Bureau's programs and operations, and is supported by individuals who are responsible, accountable financial managers. CAMS must ensure the integrity, timeliness, and completeness of the data and information.

One of the objectives of CAMS is single-entry, source capture of data that eliminates duplicate data entry and related accounting reconciliations. Paperless processing, using electronic forms and electronic approval, produces the form concurrently recording the appropriate accounting transactions; i.e. validating the availability of funding and committing/reserving funds for the expenditures. Up-to-date, official financial data is available for queries based on user security profiles.

CAMS is a Department of Commerce system; they design and modify CAMS. The U.S. Census Bureau tests these modifications to see how they affect our environment and may recommend additional changes to the Department of Commerce. We design, develop, and maintain "feeder systems" that allow U.S. Census Bureau personnel to use CAMS. Our personnel and contractors provide production support and some maintenance for CAMS and the feeder systems.

In addition, the Administrative and Customer Services Division provides IT support for a wide range of services to various U.S. Census Bureau divisions. These services include:

- **designing forms;**
- **preparing and developing publications;**
- **designing graphics;**
- **developing CD-ROMs; and**
- **supporting Internet displays.**

1.1 Finance and Administration Program Area Products, Services, and Customers

The table below lists Finance and Administration's products, services, and customers:

Finance and Administration Products, Services, and Customers	
Products and Services	**Customers and Clients**
Financial management	U.S. Census Bureau Executive Staff, program managers, and administrative staff; Department of Commerce; Office of Management and Budget
Financial reports	U.S. Census Bureau Finance Division and Budget Division; Department of Commerce; Office of Management and Budget
Financial database	U.S. Census Bureau managers
Procurement documents	U.S. Census Bureau divisions; vendors
Travel documents	U.S. Census Bureau divisions
Purchase card management	U.S. Census Bureau divisions
Property management	U.S. Census Bureau divisions
Sales order entry management	Marketing Services Office
Expendables, forms, publications inventory management	U.S. Census Bureau divisions
CAMS training	U.S. Census Bureau divisions

1.2 Finance and Administration Program Area IT Objectives

The Finance and Administration area seeks to make maximum and efficient use of IT resources to meet program objectives by:

- capturing financial data as a byproduct of program and administrative tasks;
- ensuring the integrity, timeliness, and completeness of financial data;
- replacing proprietary and custom-designed software applications with commercial off-the-shelf products where feasible;
- ensuring that production systems are state-of-the-art and within U.S. Census Bureau standards;
- ensuring Y2K compliance;
- providing software and data redundancy, as well as hardware failsafe mode to minimize downtime;
- using web-enhanced applications to fulfill customer needs; and
- employing state-of-the-art technology to automate feeder systems.

2.0 Finance and Administration Program Area IT Support

Finance and Administration's programs provide administrative services and support activities across the U.S. Census Bureau. Finance and Administration's programs include the following:

- **assessing and updating policies, procedures, organization, and staff;**
- **providing central accounting and financial reporting;**
- **managing property, space, records, and physical facilities; and**
- **supporting publications and forms design.**

There are two primary IT systems which support Finance and Administrative programs: the Commerce Administrative Management System (CAMS) and the much smaller Publications and Forms Design System.

We are implementing CAMS in two phases. We implemented the baseline deployment at the beginning of FY 1998; we are currently deploying over 100 manual, automated, and feeder systems. We are installing additional hardware as the system grows.

After we integrate the feeder systems and make minor software modifications and enhancements, new initiatives will include:

- **developing a user-friendly system front end;**
- **web-enabling most components; and**
- **automating manual processes with current technology.**

All work on CAMS and the success of the feeder systems is dependent on the IT Directorate supplying adequate telecommunications support as well as managing and maintaining the dedicated computers. At the same time, the U.S. Census Bureau is dependent on the Department of Commerce maintaining those CAMS components for which it is responsible.

Current and planned Finance and Administration activities support the following IT Goals and Strategies given in the 1999 Strategic IT Plan:

Goal 3:	**Improve our information systems' ability to support our business processes.**
Strategy 5:	**Improve and expand electronic survey data collection, capture, and processing systems.**
Strategy 6:	**Improve electronic information dissemination to the U.S. Census Bureau's customers.**
Strategy 7:	**Solve the Year 2000 (Y2K) problem.**
Strategy 8:	**Redesign legacy systems to operate in an open systems environment.**
Strategy 9:	**Support implementation of re-engineered business processes.**
Strategy 10:	**Use technology to deploy a "Digital" U.S. Census Bureau and reduce respondent burden.**

These current and planned activities we are undertaking include the following:

- **installing all new equipment at the Bowie Computer Center;**
- **automating existing manual systems;**
- **providing comprehensive online databases for customers;**
- **redesigning legacy systems; and**
- **deploying Y2K compliant systems.**

During FY 2000, we plan to replace the CAMS' DEC 2100 system with a new upgraded system; at the moment, we are planning to use a DEC Alpha 8400. Our long-range plans include updating hardware in FY 2002. In addition, we are planning significant increases in disk storage, as follows:

- **one terabyte for FY 2000;**
- **two terabytes for FY 2001; and**
- **three terabytes for FY 2002.**

The Publications and Forms Design System helps to create and develop generalized publications (including statistical compendia, catalogs, manuals, and other reference materials) and graphics. Over 1,000 publications are available and distributed to external customers via CD-ROM disks and Internet data files.

We are using two software packages, Netscape Publishing and Netscape Merchant, to sell publications online.

Netscape Publishing provides a billing or subscription mechanism to customers accessing specific "paid" portions of the website. The subscriber can access a service that replicates the data and software available on some of our best-selling CD-ROMs. A three-month subscription to the service is $40; multiple user subscriptions are $2,500 per year.

Netscape Merchant lets people buy U.S. Census Bureau data products through our Internet website. Customers can view the CenStore portion of the site, which describes all our data products, then select the appropriate CD-ROMs for purchase. For more information, please see the CenStore website at **www.census.gov/mp/www/censtore.html.**

Supporting a "Digital" Department of Commerce

All financial transactions are electronically funneled, tracked, and ultimately audited through the Core Financial System. Integrated with the Core Financial System are several vital administrative systems that collect and validate data from users at the earliest possible point of entry. These systems form the basis for CAMS. CAMS reduces paperwork by using electronic forms and streamlines processing through electronic routing as well as online review and document approval.

We have introduced electronic signature technology into one of the integrated feeder systems, the Travel Management Information System. This technology lets U.S. Census Bureau personnel electronically sign documents and encrypt data to ensure accuracy and integrity.

We have used Electronic Data Interchange technology in the past and we will implement it with the Commerce Small Purchases System to exchange electronic Requests for Quotations, Responses to Requests for Quotations, and Awards with vendors.

We are converting many of the applications to maximize the benefits of Web technology and give our users Intranet access to financial and administrative data.

Joint Venture 2000 is the partnership agreement between the U.S. Census Bureau and the General Services Administration (GSA). Under this agreement, GSA acquires and sets up spaces and logistical services for temporary Census 2000 offices. The U.S. Census Bureau will receive automated invoices from GSA and process them into the Core Financial System.

The U.S. Census Bureau receives electronic payroll data from the National Finance Center each pay period. The National Financial Center's interface edits the data and posts it to the General Ledger Module of the Core Financial System; the volume of transactions per pay period is over 300 thousand. Each pay period, we receive an electronic file from the Decennial payroll system and process it through the PAMS/ADAMS interface into the General Ledger Module of the Core Financial System. The interface also puts the data on CD-ROMs for Finance Division's use; this has eliminated four paper reports.

Part of the input to the CAMS postal feeder system is electronic files containing data from postal meters at Headquarters, the Field Regional Offices, the Decennial Regional Census Centers, and the National Processing Center in Jeffersonville, Indiana. The postal team is working with the DocuServ team to receive electronic data on mailing costs incurred by contracted printers who print and mail out U.S. Census Bureau documents.

The U.S. Census Bureau has also established an electronic interface with Federal Express; they now submit electronic invoices directly to the Express Small Purchases System. This automated procedure has cut the manual work time we spend on processing paper invoices.

2.1 Finance and Administration Program Area IT Systems Description

2.1.1 Commerce Administrative Management System (CAMS) Description

The heart of CAMS is the Core Financial System. Data is entered into this system via feeder systems that include the following:

- **the Automated Decennial Administrative Management System;**
- **the Budget Management Information System; and**
- **the Travel Management Information System.**

These systems handle a variety of administrative and financial functions.

The Core Financial System contains all the functionality required to support central accounting and financial reporting. The components of the Core Financial System are:

- **General Ledger;**
- **Accounts Receivable;**
- **Accounts Payable;**
- **Budget Execution;**
- **Cost Accumulation; and**
- **Financial Reporting.**

CAMS also supports functions for:

- **Budget Formulation;**
- **Procurement/Small Purchases;**
- **Payroll interface with the National Finance Center;**
- **Property Management;**
- **Travel Management;**
- **Order Entry and Inventory Control;**
- **Purchase Card, and**
- **Training.**

Both manual processes and automated systems feed data to the Core Financial System. For example, Accounts Payable, General Ledger, and Accounts Receivable transactions can be entered manually or electronically. The Budget Management Information System feeds electronic data to the budget execution component of the Core Financial System.

The U.S. Census Bureau began its Core Financial System implementation planning and rollout in March 1995 by establishing a CAMS Implementation Office and CAMS Implementation Manager. The U.S. Census Bureau designed a phased deployment strategy with its initial phase, or “baseline” implementation, beginning in October 1996. The initial implementation included the general ledger, budget execution, and cost accumulation modules of the Core Financial System. The U.S. Census Bureau and Andersen contractors designed, developed, and built a generic extract interface and a budget interface to bring financial transaction data from legacy systems to the Core Financial System. We also acquired a Digital Alpha 8400 computing platform running the Oracle-based Core Financial System software under Digital UNIX.

The second phase, or “target” implementation, began October 1997 and included initiating reimbursable agreements, no-match accounts payable invoice processing, limited accounts receivable processing, and a new payroll and labor estimating interface.

The third implementation phase was the Department of Commerce "pilot" portion of Core Financial System, which was completed June 30, 1998. This phase (illustrated in Figure 1, below) included the following:

- **processing complex matching invoice documents;**

(continued)

- **full accounts receivable recording and processing;**
- **activation of online funds control;**
- **integration of Oracle-converted and newly built functional modules for small purchases;**
- **purchase card;**
- **payroll interfaces with the National Finance Center and interim estimating programs; and**
- **production of standard Office of Management and Budget and Treasury Financial Reports.**

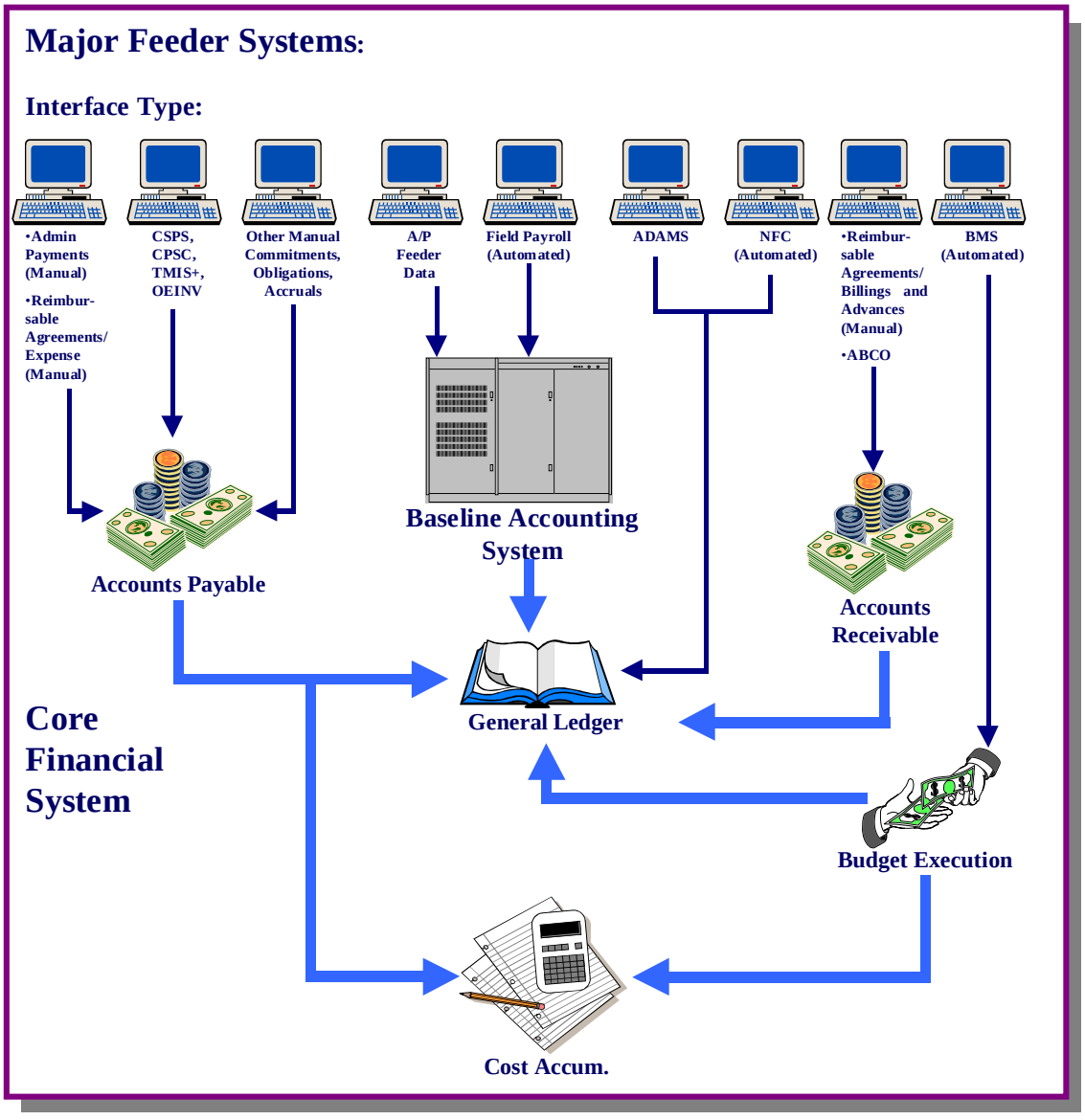

Figure 1: CAMS Implementation Phase

The next, or "transition," phase began in FY 1999 and includes development and roll out of electronic signature capability and of additional U.S. Census Bureau-specific applications for travel, order-entry/inventory, personal property, and postal services, document printing and publications services. This phase (illustrated in Figure 2, below) will continue into FY 2000. An important component of this phase will be removing all residual transactions from the legacy system that resides on the Unisys platform.

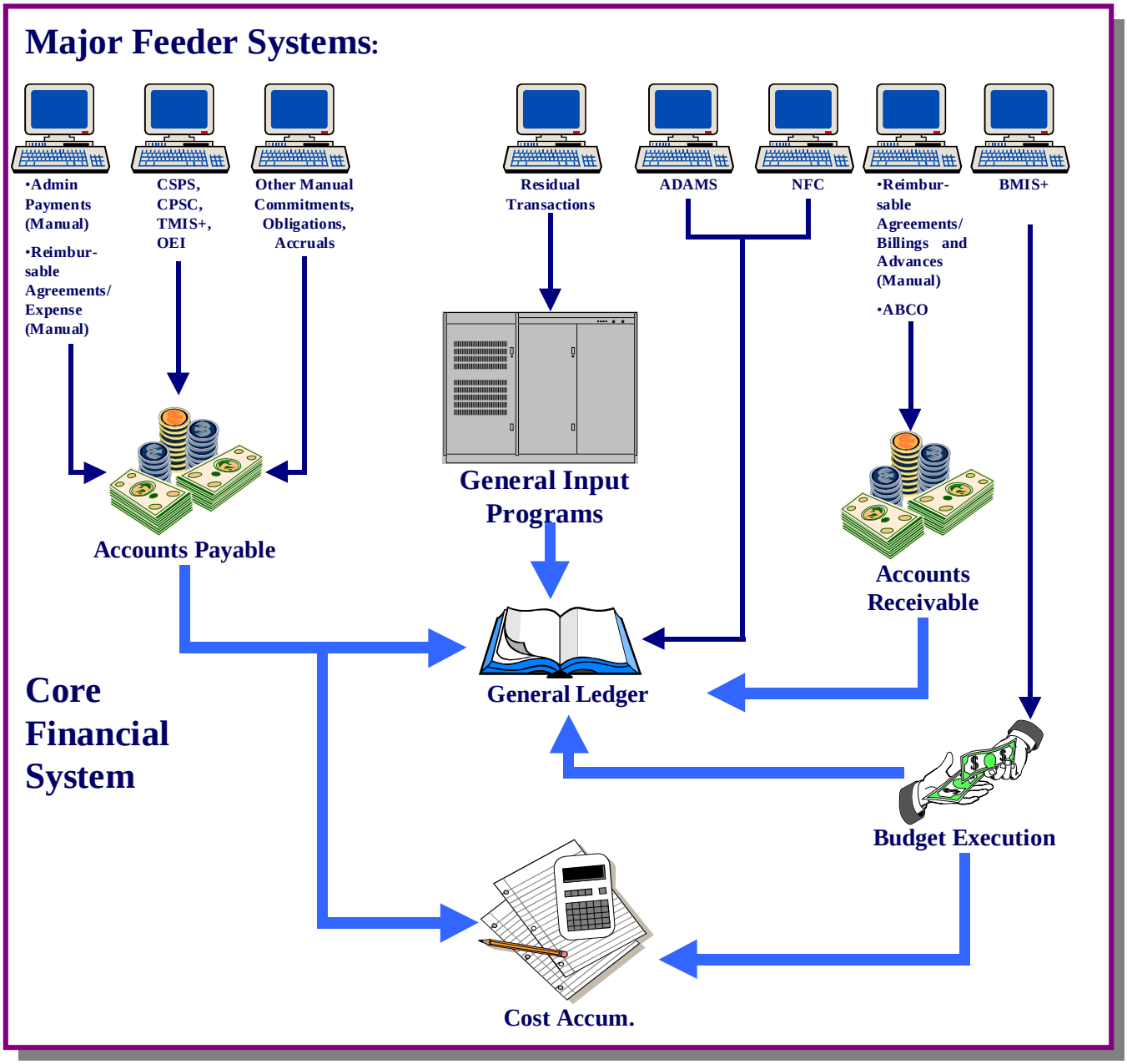

Figure 2: CAMS Transition Phase

"Residual transactions" are those that currently occur on the Unisys legacy system; one of our tasks is to convert these transactions to generic input processes which interface with the Core Financial System. Our parallel goals are the following:

- **ceasing all work in the legacy accounting system;**
- **moving from an environment which may not be Y2K compliant to one that is; and**
- **ensuring functionality for all necessary transactions into the general ledger (GL005) of the Core Financial System.**

The full implementation of CAMS at the U.S. Census Bureau includes enhanced capabilities in the Core Financial System to provide the following services:

- **archiving and warehousing of financial transactions that are closed from previous fiscal years to minimize the size of the online general ledger and improve user response time for database queries;**
- **planning and setup of major organizational changes from one accounting period to another and the proper linking of financial transactions across these changes;**
- **distributing parts or all of the general ledger database to field offices; and**
- **establishing generic interface or integration points in the Core Financial System for various feeder systems that will be permanent legacy systems under the CAMS umbrella.**

Future modifications to the Core Financial System will include converting from character to Graphical User Interface end-user screens, accommodating required accounting transaction types needed by Department of Commerce agencies that cannot be addressed through business process re-engineering, and ensuring that all interfaces meet the new Commerce-wide interface standards.

Finally, another of the overarching goals of the CAMS implementation project schedule is to replace legacy administrative systems that are not Y2K compliant with the Core Financial System, which is.

The following table lists the core CAMS machines and their functions.

CAMS Machines

Server Name	Hardware Type	CAMS Specific Function
Omsa01	DEC Alpha 2100	Development platform
Fabu01	DEC Alpha 8400	Test platform
Disa01	DEC Alpha 8400	Production platform
Adnet01 CAMS	Compaq 5000 R	Front end Novell server
Camsweb1	Sun Enterprise 450	Front end production web server
Camsweb2	Sun Enterprise 450	Front end development/test web server with production backup capability

We currently use the DEC Alpha 2100 as a development platform; it has the following configuration:

- **two processors;**
- **the alpha EV4.5 (21064) processor operates at 274MHz;**
- **512MB memory;**
- **one SWCXR RAID controller;**
- **one TLZ87 DLT tape drive;**
- **15 4.3GB drives;**
- **eight 2.1GB drives; and**
- **81.3GB storage.**

We now use the original CAMS architecture as a test platform. The architecture is a Digital 8400 Alpha computer consisting of:

- **two dual CPU modules;**
- **two gigabyte (GB) memory modules;**
- **one 2GB swap disk;**
- **one 2GB system disk;**
- **two 40GB tape magazines;**
- **two HSZ40 controllers; and**
- **46 4GB disks organized into RAID pools and advanced file system disks.**

We had to replace the original architecture due to the heightened implementation of CAMS and its accelerated deployment throughout the U.S. Census Bureau. The replacement platform, a DEC Alpha 8400, consists of the following:

- **five dual CPU modules;**
- **six GB memory module;**
- **two 4.3GB swap disks;**
- **two 4.3GB system disk drives;**
- **four TZ89GB tape drives;**
- **four HSZ40 controllers;**
- **64 4.3GB disks;**
- **14 9GB disks; and**
- **the disks are organized into RAID sets.**

The operating system software is Digital UNIX and the database software is Oracle Relational Database Management System. The application software is commercial off-the-shelf software. The Department of Commerce's CAMS Service Center makes any enhancements, modifications, and required interface programs to the software.

CAMS does not operate or maintain its own telecommunications architecture, relying solely on the U.S. Census Bureau's telecommunication infrastructure provided by the IT Directorate's Telecommunications Office.

The CAMS front end Novell server consists of the following:

- **a Pentium 200;**
- **one GB memory;**
- **16GB disk; and**
- **Netware 4.11.**

The two CAMS Webserver boxes are in the Bowie Computer Center. CAMS uses both client- and web-based systems for acquiring and delivering data. Our goal is to eventually move all applications interacting with CAMS to the U.S. Census Bureau's Intranet. By moving to web-based systems, we will provide faster response times to our customers. The Webservers consist of the following:

- **two 300MHz CPUs;**
- **four GB of memory;**
- **12 GB of disk space;**
- **one tape drive; and**
- **two controllers in each.**

2.1.2 Commerce Administrative Management System (CAMS) Progress Against Planned Milestones

Commerce Administrative Management System Milestones FY 98					
Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Implement the former Department Of Commerce Express Pilot (implemented full Small Purchase System)	02/97	10/97			Canceled by Department Of Commerce.
Conversion and Testing	02/97	10/97		10/97	Completed.
Implement and deploy General Ledger Interfaces	03/97	10/97		10/97	Completed for FY 98.
Support Baseline Deployment	12/96	12/97		12/97	Completed.
Implement and deploy Accounts Receivable, Reimbursable Agreements	03/97	12/97		12/97	Completed.
Implement Accounts Payable	03/97	03/98		02/98	Completed.
Implement Purchase Card System and Integrate with Core Financial System	03/97	03/98		03/98	Completed.
Analyze requirements and Acquire IT resources to Upgrade DEC-8400	12/97	03/98		03/98	Completed.
Implement Order Entry and Inventory – MSO	03/97	06/98		03/98	Completed 03/98.
Implement Small Purchases (Procurement) System and Integrate with Core Financial System	10/97	06/98		04/98	Completed.
Implement interim labor estimator	01/98	06/98		06/98	Completed.
Implement Time and Attendance Module and Integrate with Core Financial System	02/97	06/98		06/98	Completed.
Produce Reports per Office of Management and Budget S2-97-01 for OMB and Department of Treasury	01/98	06/98		06/98	Completed.
Budge management Information System Plus	10/97	06/98			Implementation moved from FY 1999 to FY 2000.
Implement Personal Property	02/97	06/98		07/98	Completed.
Develop and implement Employee Interface and Reporting System	07/97	09/98		09/98	Completed.
Develop and implement Personnel Action System (SF-52)	N/A	N/A			System low priority – assigned to HRD.
Develop and implement Security Clearance System	N/A	N/A			System low priority – never scheduled.

Commerce Administrative Management System Milestones FY 99					
Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Implement Travel system and integrate with Core Financial System	10/97	10/98		10/98	Completed.
Implement Enhancement to Postal System	10/97	10/98		10/98	Completed for FY99.
Enhance Personal Property to include financial reports and depreciation	02/97	12/98		04/99	Completed (Ran parallel tests for 4 months).
Develop and implement Jeffersonville Activity and Reporting System	07/97	07/99	10/98		Staff being trained, parallel test being prepared.
Budget Management Information System plus	10/97	06/98			On schedule for FY2000 implementation. (07/99)
Implement Data Warehouse	05/99	09/99			In progress.

Commerce Administrative Management System Milestones FY 00					
Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Complete Migration of all Accounting Processing from Unisys to CAMS platform	01/99	10/99			On schedule.
Make Enhancements to all Applications	10/99	09/00			
Continue Work on Data Warehouse	10/99	09/00			
Continue development of computer based training	10/99	09/00			
Continue Performance Improvement to CAMS	10/99	09/00			
Continue development of reporting functionality	10/99	09/00			

Commerce Administrative Management System Milestones FY 01					
Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Make Enhancements to all Applications	10/00	09/01			
Continue Work on Data Warehouse	10/00	09/01			
Continue development of computer based training	10/00	09/01			
Continue Performance Improvement to CAMS	10/00	09/01			
Continue development of reporting functionality	10/00	09/01			

Commerce Administrative Management System Milestones FY 02					
Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Make enhancements to all applications	10/01	09/02			
Continue work on Data Warehouse	10/01	09/02			
Continue development of Computer Based Training	10/01	09/02			
Continue Performance Improvements to CAMS	10/01	09/02			
Continue Development of Reporting Functionality	10/01	09/02			

Commerce Administrative Management System Milestones FY 03					
Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Make enhancements to all applications	10/02	9/03			
Continue work on Data Warehouse	10/02	9/03			
Continue development of Computer Based Training	10/02	9/03			
Continue Performance Improvement to CAMS	10/02	9/03			
Continue Development of Reporting Functionality	10/02	9/03			

2.1.3 Commerce Administrative Management System (CAMS) Performance Measures

Commerce Administrative Management System Performance Measures			
Performance Goals	**Performance Measures**	**Target Performance**	**Current Performance**
Monitor implementation progress	Percent of critical milestones achieved on schedule	85-100%	100% (1 out of 1)
Maintain system availability	Percent of system downtime (during business hours) caused by CAMS software	Less than 3%	Downtime: less than 1% (1 hour out of 480; Jan-Mar)
Customer satisfaction	Number of outstanding Priority 1 and 2 System Investigation Requests (SIRs)	0 Priority 1 SIRs; 5 Priority 2 SIRs	0 Priority 1 SIRs; 40 Priority 2 SIRs
Assess effectiveness of end-user product	Percent of problems reported to help desk that are resolved within designated resolution period (per priority)	85-100%	93% (Jan-Dec)
Move applications off Unisys system	Average number of transactions interfaced from the legacy Unisys accounting system	Average less than 200 transactions per month	148 transactions per month (Jan-Mar)
Assess availability of financial management information	Average availability of Financial Management Reports following month end	Preliminary reports by 3rd business day; Final reports by 10th business day	Preliminary reports: N/A; Final reports: 10.5 days average availability (Dec-Feb)

2.1.4 Commerce Administrative Management System (CAMS) Risks

CAMS management anticipates that staffing is a major implementation risk. Hiring and retaining competent technical staff is increasingly difficult in light of the lower salary levels in the federal government when compared to private industry. We have used and will continue to use contract programmers and analysts. Additional risks are the lack of institutional knowledge and the high turnover of these contract programmers. The National Oceanic and Atmospheric Administration and the CAMS Support Center have recruited some of our key employees and contractors.

Another risk is the CAMS Support Center. As the pilot agency, the U.S. Census Bureau was getting almost undivided attention from the CAMS Support Center. The pilot, completed in June 1998, enabled other agencies to begin implementing and deploying CAMS. The CAMS Support Center now has to support not only the U.S. Census Bureau, but the other agencies as well, and we will have to compete for their limited resources. Turnaround time, even for high priority fixes, is developing into a problem, as it is not possible for the Finance and Administrative Division to make modifications to CAMS.

The process for getting **fixes** made to the Core Financial System software is as follows:

- **We create a Software Investigation Request (SIR) through the U.S. Census Bureau CAMS Help Desk, which assigns a number to the request.**
- **U.S. Census Bureau staff fax this request to the Department of Commerce CAMS Support Center (CSC) in Gaithersburg, with the appropriate level of priority. There, the request receives a CSC Activity Request (AR) number.**

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- **If it is critical, a U.S. Census Bureau manager will call the CSC to alert them that we are faxing them a critical request.**
- **If it is not critical but very important, Finance and Administration will send an e-mail to CSC requesting to get this AR scheduled.**
- **At a biweekly telephone conference, our U.S. Census Bureau representative and their counterpart at the National Oceanic and Atmospheric Administration decide which ARs CSC will work on. They must stay within the number of work hours that CSC has available each month, which means there may be compromises.**

The process for **changing and enhancing** Core Financial System software functionality is even more laborious:

- **We submit a SIR (with additional required information) to the CSC, and an AR number is assigned.**
- **The Department of Commerce's functional expert on CAMS works with us to get all questions answered and documented.**
- **The Department of Commerce presents all the change/enhancement requests at the monthly CAMS Department of Commerce Technical Advisory Council (TAC), consisting of representatives from all Commerce agencies.**
- **The TAC examines each request in detail and then votes (each agency has one vote) to determine if the change can be submitted to the Department of Commerce Software Council for approval.**
- **The Software Council consists of the Finance Officer or a designated financial manager from each agency. If they vote to approve the change, it must be scheduled as if it was a fix.**
- **After the CSC releases a new software version to the U.S. Census Bureau, Andersen contractors test it. As the U.S. Census Bureau's environment is different from the Department of Commerce's, the software might not be acceptable. Both of these factors delay implementing fixes and enhancements.**

The risk inherent to these delays is that we will not be able to supply our services on time and with quality. Because of the CAMS Support Center's limited resources, their work must be prioritized, with fixes having the highest priority and changes/ enhancements falling somewhere below. In addition, a new element of uncertainty has been added to the process for making changes to the Core Financial System software: the CAMS Support Center's budget has been cut, which has translated into many projects being placed on hold. These projects include the following:

- **Programming on the Printing and Publication Services Feeder Module;**
- **Migration to Next Release of Oracle;**
- **Reorganization Module Programming;**
- **Develop Design for Archiving Module;**
- **Develop Standard Interfaces;**
- **Ongoing Support for Documentation;**
- **Process Improvement;**
- **Capture Design in CASE Tool;**
- **Expand Support for Net Works; and**
- **Program Management—an OMB Requirement.**

Finally, the site license for Oracle production expires at the end of 2002. If not renewed, CAMS could bear additional costs beginning 2003.

2.1.5 Commerce Administrative Management System (CAMS) References

CAMS is supported by the following planning documents:

- **Budget Submission for FY 2000, dated June 1999;**
- **1999 Strategic IT Plan, dated December 18, 1998, pages 85-86, 100;**
- ***DEC 8400 System*, Requirement Initiative FADM-9902, approved February 24, 1999;**
- ***Information Technology Services*, Requirement Initiative IT01-9801, approved December 30, 1997;**
- ***DEC 8400 Hardware and Software*, Requirement Initiative AS02-9601, dated May 9, 1996; and**
- **the Security Plan for CAMS data.**

2.2.1 Publications and Forms Design System

Publications, graphics/forms design and production at the U.S. Census Bureau use IT resources in three categories:

- **mainframe/minicomputer systems;**
- **proprietary UNIX-based systems; and**
- **PC desktop systems.**

The IT Directorate directly provides mainframe/minicomputer and desktop resources. The Finance and Administration program area procures and maintains two proprietary UNIX-hosted hardware systems and associated peripherals to produce publications and forms. These two hardware subsystems, plus graphics production, are functionally integrated into a single publication system where content is exchanged between platforms and peripherals are shared. The Finance and Administration program area directly maintains these subsystems (described below).

The Solaris-based Xyvision system composes page layouts containing graphics, text, and tables. The PC-based Interleaf software produces charts and graphs and complete publications when complex page designs are required. We use the Santa Cruz Operation, Inc. UNIX-based Amgraf system exclusively to produce high-quality color forms. Many of these forms are now sent directly to a high-speed color laser printer where data can be overprinted onto the form.

As technology becomes available, we are replacing the proprietary UNIX systems PC Windows-based workstations. The Interleaf graphics software is available in a Windows version; the move to the Windows version is nearly complete and we did so at no cost under the current software license. We are reviewing Graphical User Interface forms design software packages, and these appear to meet our requirements for replacing the Amgraf system. This replacement is scheduled for FY 1999. Only the Xyvision page composition system will remain on a UNIX server.

The Publications and Forms Design System receives input from multiple sources and in many formats. The most common includes input for the Table Image Processing System, which consists of tabular pages pre-composed on Unisys and DEC platforms, data files containing embedded composition codes, and data or text files prepared by the sponsors using desktop software. From these inputs, the Publications and Forms Design System produces the following:

- **camera copy or negatives for printing contractors;**
- **final color laser print copy (especially forms);**
- **miscellaneous graphics products, including those used in publications;**
- **CD-ROM masters; and**
- **electronic documents distributed via the Internet.**

Operators using client workstations control the work flowing through the system. The workstations are mostly high-end PCs, both Apple MacIntosh and IBM, enhanced with extra random access memory (RAM) and 21" monitors. We use approximately 40 workstations to access the network and Unix servers. In total, the Publications and Forms Design System consists of two Unix hosts, one NT Server, 40 workstations, and shared peripherals such as laser printers, scanners, and a typesetter.

The Publications and Forms Design System is made up of the following subsystems described below.

The Publication Layout Subsystem is comprised of the following:

- **one Solaris Enterprise 1 application server (128M, 8GB disk, Uninterruptible Power Supply, tape);**
- **Xyvision Production Publisher (UNIX);**
- **NT file server;**
- **16 PC workstations; and**
- **two postscript black & white laser printers (can print up to 20 pages per minute).**

The Graphics Subsystem is comprised of the following:

- **Interleaf 6.4, Photoshop, Illustrator, Freehand, Pagemaker, Acrobat Suite, GIF Construction Set, ATM Deluxe, Power-Point, PKZip, PrintFile (freeware), OnNet FTP;**
- **eight Pentium PC workstations (450MHz Dell with 128MB RAM, 9GB hard disk, internal CD-ROM, internal 100MB ZIP drives;**
- **one Pentium Windows NT file/print server;**
- **three Power MacIntoshes;**
- **one ProImage 7100 flatbed color scanner from PixelCraft, Inc.;**
- **one Canon CLC1000 color lasercopier;**
- **two SCSI 100MB ZIP Drives;**
- **ADNET-owned PC fileserver with 9GB storage capacity for the Graphics Subsystem's files;**
- **one scanner 1200 dpi; and**
- **two HP5SiMx postscript black & white laser printers (can print up to 20 pages per minute).**

The Forms Design Subsystem is comprised of the following:

- **15 Pentium PCs (300MHz Dell with 48MB RAM, 4GB hard disk, internal CD-ROMs);**
- **three Pentium PCs in common areas;**
- **ADNET-owned PC fileserver with 9GB storage capacity;**
- **one Power MacIntosh;**
- **16 100MB ZIP drives;**
- **one JAZZ drive;**
- **one Epson 836XL flatbed color scanner;**
- **Linotype L300 typesetter with color separation board installed, and RIP 50;**
- **one LOG-E online film processor;**
- **one Canon CLC800 color laser printer/ copier; and**
- **two HP5SiMx postscript laser printers, with installed high-capacity trays.**

We are currently moving the Forms Design Subsystem to a Windows95/98/NT platform software, OneForm.

The Table Image Processing Subsystem is the engine that drives the production of the U.S. Census Bureau's publication tables. This subsystem is available on both the DEC VAX/VMS and DEC Alpha platforms. Our long-term plans are to replace this subsystem with a less comprehensive table composition system.

2.2.2 Publications and Forms Design System Progress Against Planned Milestones

Publications and Forms Design System Milestones, FY 98

Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
No milestones to report					

Publications and Forms Design System Milestones, FY 99					
Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Upgrade the Division Page Composition System	01/97	09/98	02/97	10/98	Completed.

Publications and Forms Design System Milestones, FY 00					
Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Upgrade the Amgraf Forms Design system	03/97	12/99	05/97		Currently testing new application.
Consolidate graphics work on the PC platform	02/99	05/00			Task is approximately 75% complete.
Institute reviews/updates of graphics work consolidation on the PC platform	02/99	05/00			Task is approximately 75% complete.
Retire typesetter-send jobs electronically to contractor	10/99	09/00			

Publications and Forms Design System Milestones, FY 01					
Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
Institute reviews/updates of the replacement of the Table Imaging Processing	05/97	12/00	08/97		Holding ongoing discussions with customers on the use.
Institute reviews/updates of file server move to Bowie	10/97	12/00	12/97		Evaluating servers for feasibility on move to Bowie.
Replace Table Imaging Processing System (TIPS) with COTS software	09/99	12/00			
Retire MacIntosh workstations	12/99	12/00			
Consolidate and move all file servers to Bowie	12/99	12/00			

Publications and Forms Design System Milestones, FY 02-03					
Description	Estimated		Actual		Progress to Date
	Start Date	Finish Date	Start Date	Finish Date	
No milestones to report					

2.2.3 Publications and Forms Design System Performance Measures

The Publications and Forms Design System has no performance measures to report.

2.2.4 Publications and Forms Design System Risks

The risks associated with the Publications and Forms Design System are rapid technological change and the associated move from paper to electronic media. The systems we use must continue to support traditional printing and publishing requirements while also meeting new requirements for electronic formats and products. Keeping the skill levels of current staff in sync with the increasingly complex technologies is a challenge. The specific risk associated with implementing the Table Imaging Processing System is that one person supports this system; if we lose this person and their knowledge, the U.S. Census Bureau's table processing capability would greatly suffer.

2.2.5 Publications and Forms Design System References

The Publications and Forms Design System is supported by the following planning documents:

- **Budget Submission for FY 2001, dated June 1999;**
- **1999 Strategic IT Plan, dated December 18, 1998, pages 85-86, 100;**
- ***IT Resources for CAMS Program*, Requirement Initiative CAMS-9801, approved January 21, 1998; and**
- ***DEC 8400 Hardware and Software*, Requirement Initiative AS02-9601, approved May 9, 1996.**

3.0 Finance and Administration Infrastructure

The Finance and Administration infrastructure is provided by the IT Directorate; please see section 6.1 of the Enterprise IT Support portion of this Plan. The following table lists the number of PCs and printers that Finance and Administration uses:

Finance and Administration Office Automation		
Division	**PCs**	**Printers**
Human Resources	**232**	**18**
Financial/Administrative Services	**210**	**23**
Admin/Customer Service	**230**	**6**
Security	**53**	**8**